Feedback on Dr Mundy's four bullet points:

1. **Ways in which the ADR process may be improved to reduce cost and improve timeliness**

   i) Identify those which are topped and tailed with an ADR cover to no direct benefit and provide legislation to set those for adoption and to remain as UNECE documents.

   ii) Explore opportunities to streamline consultation with peak industry and advocacy groups such as local manufacturers and industry bodies e.g. FCAI, and establish more effective communication groups, relationships and parameters, as consultation and negotiation with such entities can be one of the slower aspects of any proposals for update, change, technological progress, etc.

   iii) Identify those ADRs where the only significant difference is the threshold between light and heavy in the vehicle categories referred to and move towards better alignment of that threshold to enable a further tranche of UNECE documents to stand unchanged. However, such a change in the standards arena would necessitate a significant range of amendments to legislation and applications in respect of licensing, road rules, insurance, enforcement, etc. at substantial costs and with wide ranging implications for industry and public alike.

2. **The extent to which the current ADR processes support or inhibit productivity and innovation in the vehicle and component manufacturing, road transport and other relevant industry sectors**

   i) Component manufacturing businesses are meeting the needs of vehicle manufacturers which are based offshore, which suggests that such businesses are being innovative and responsive to the needs of their customers, and leading rather than following the subsequent adoption of UNECE regulations into ADRs

   ii) Manufacturers of low volume vehicles that export vehicles or components may operate at such low volumes in individual overseas markets, and / or their products may be sold overseas in kit form, and they may be little affected by some regulatory change but highly impacted by others. But they will be impacted in those markets based on the low volume manufacturer scheme in place in those jurisdictions, so adoption here will more significantly impact on those whose market is either dominated by, or wholly reliant on the Australia (and perhaps also New Zealand) markets. Low volume vehicles are often not so essential as the routine family saloon or wagon, and sales can be hit hard by changes in the economy and exchange rates, both at home and overseas. Their ability to respond to high impact changes could be business threatening. Careful consideration of the likely impacts of fast transition of UNECE documents will need to be made particularly with respect to those low volume manufacturers which do not build to export to overseas markets.

   iii) Buses are built on internationally available chassis with the commonly available components, assemblies and technologies attached such as steering, suspension, braking, engines and transmissions. While local manufacturers provide seats, seatbelts, and other components to meet the needs of use in Australia which are not always essential elsewhere, such as the need for air-conditioning, etc. These should not be affected by the speedy adoption of UNECE docs as they will already have been anticipated for the EU market at the very least.

   iv) Other road transport. We have a split between EU, US and other feed countries for vehicles such as prime movers and other tractive units for heavy road transport, while a significant portion of heavy vehicle trailers are of more local manufacture. The likely

impacts on the heavy transport options available to the market may then be more problematic than those for light vehicles.

v) Special purpose vehicles. (Large cranes, agricultural, firefighting, airport, dock, road building and maintenance equipment, etc., etc.) Many of these are driven by the performance issues they need to address in use, and the use environments certainly do not always align well with all desirable road use standards. Being aware of and responsive to the build of such vehicles in their countries of origin is essential, as these manufacturers are unlikely to respond well to additional requirements for a relatively small and often distant market. The importance of such vehicles to our economy and / or general wellbeing should not be ignored. It is essential that we can continue to receive such vehicles, for specific purposes when coupled with limited road use, without putting systemic inhibitors in place against their import.

3. The extent to which the current ADR processes support or inhibit choice and price outcomes for consumers

i) It may be reasonable to assume as Australia and New Zealand are late adopters of such standards that manufacturers may bring the latest models into here a little later than elsewhere, selling their slightly older technology vehicles here for a little longer and perhaps also keeping prices down in our market as a result.

ii) In the meantime, the more environmentally aware customer may be waiting for the next model variant that will have the desirable on-board systems they really want, or the new vehicle they know has been released in other parts of the world that is not yet available here as it is not yet necessary in order to meet the regulatory environment here.

4. Opportunities for improving ADR processes to support the transition to net zero. Whilst stakeholders may illustrate their views with examples of current or proposed ADRs, it is not the function of this review to reconsider the content of individual ADRs.

i) There is a significant cost to the environment in embracing new technologies, rare earth elements, high refinement costs and ensuring that recyclability is planned for.
If we are writing anything new into ADRs then we should be including recyclability in every possible ADR, not just throwing the towel in because we are a long way from the manufacturer. We should be trying to ensure that manufacturers play a more significant role by designing for end of life that we as a nation can then take more advantage of, or that manufacturers are required to become more involved in reclaiming and recycling at the end of vehicle life stage perhaps with an obligation to accept difficult to recycle materials back. Though such things should be factored in at the UNECE drafting phase, the option (if we continue to top and tail UNECE regs under ADR covers) may be available to add them as requirements for vehicles entering for sale here.
There is little benefit to the Australian environment if we are left with increasingly high technology, hard to reprocess end-of-life vehicles. Vehicles are shipped in, and perhaps the ultimate plan should be for end-of-life vehicles should travel back out on the same vessels.

ii) Moving transport towards net zero is considered likely to only be feasible by drastically reducing traffic volume and shifting transport demand to low-emission modes, or the amount of additional electricity required to fully electrify the transport sector with *renewable* energy may otherwise be just too large. (199 Wuppertal Oct 2022).
Hydrogen fuelling seems likely to become a more significant part of a future net zero position as the technology for on-board hydrogen generation continues to mature.

Shortening the lead-in to the introduction of UNECE regulation where the subject improves efficiency, fuel type or emissions factors of vehicles will certainly be an incremental move in the right direction.
However, we would need to better understand how potential changes would best align with the benefits of other aspects of technology such as autonomous vehicles and how we can best enable these vehicles on our road networks, efficiencies from altered road surface characteristics, emissions from power generation, and take into consideration what types of personal, and particularly public transport we would also wish to better enable so we can be clear about how transport regulation such as the ADRs (and other vehicle related standards) will fit into any long-term strategy to achieve these ends.
While our urban population centres have the biggest air quality issues, they also have the most available transport options and often access to employment opportunities with the highest levels of disposable income that the general population can utilise to embrace new technologies.
But Australia is not just the urban areas, it is Australia as a whole. Vast remote landscapes with a huge range of challenging conditions, and often low skill sets to support advanced technologies, and lower resources to enable wide acceptance of such technologies as they become available.
The challenge may not be in the ADRs but within the financial ability of vehicle purchasers to enable uptake and the workforce to provide appropriate maintenance, especially as those vehicles age in the national fleet. If I have bought a new vehicle, it doesn't matter how much I have liked it and the clean green ethic if the resale value is so low I cannot move on to my next new vehicle so easily or frequently.
ADRs can ensure the introduction to the national fleet of modern, cleaner and more efficient vehicles, but if those vehicles ultimately prove to be unreliable simply because the skills are not well enough developed, or the resources are not available to maintain those vehicles effectively then there will be little demand for them in the second hand market, and if a new vehicle is not a desirable items when used, or just cannot be used outside of well supported OEM networks in urban areas then the rural fleet generally may simply continue in use at a technological level that can be locally supported offsetting the efficiencies of the urban fleet and urban public transport options, and new vehicle purchasing patterns may be impacted.

5. **Is there a missing question here?** To what extent may we wish to ensure that a reflection of the ADRs with some tolerable wear or deterioration for in-service assessment of continued compliance with a roadworthiness standard?
Should the continued value of vehicles being brought to the road via standards not be reflected in a common in-service inspection standard? Would there be clear and identifiable benefits to road safety in ensuring all vehicles subject to ADRs are then also subject to a routine periodic inspection.